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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
| 097780.299      | 11/13/00    | SHIMOMURA            | 10089/13            |

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MM92/0628

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| EXAMINER<br>TREAS. J |
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| ART UNIT<br>2872 | PAPER NUMBER |
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DATE MAILED: 06/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/700,299

Applicant(s)

SHIMOMURA ET AL.

Examiner

Jared Treas

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation reciting "the solvent" renders the claim indefinite since it is unclear to the examiner what the applicant is referencing. Considering the indefiniteness, the examiner interprets the term solvent to be the pigment or dyes, which absorb or attenuate the light within the filter. Appropriate correction is requested.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 09306366A in view of US Patent 4,816,386, issued to Gotoh et al.

Art Unit: 2872

In figures 2 and 3, 09306366A discloses an infrared absorption filter comprising an infrared absorbing layer having a pigment disposed therein wherein the filter has a light transmission of less than 10% in the wavelength range of 800-1100 nm, a difference of less than 10% between the maximum and minimum values of light transmission within the visible wavelength range of 450-650 nm, and a light transmittance of 60% at a wavelength of 550 nm.

The reference 09306366A, fails to specifically recite the infrared absorption filter subjected to a series of conditions to determine the performance thereof.

Gotoh et al disclose an infrared absorption filter which has been subjected to a series of conditions such as, exposed to an environment of 60 degrees centigrade at a relative humidity of 90% for 1000 hours. When the infrared absorption filter was subjected to the above mentioned treatment, the optical properties remained substantially the same with a small change of 2%.

As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to develop the infrared absorption filter of reference 09306366A to endure the above mentioned conditions, or conditions similar thereto in a analogous manner as taught by Gotoh et al, for the purposes of increasing the durability and reliability of the infrared absorption filter. Note, upon subjection to the treatments, the infrared absorption filter of Gotoh et al experienced a change in optical properties of 2%. The examiner notes that such a small change of 2%, when applied to the teachings of reference 09306366A, would anticipate the applicant's claimed transmissive ranges.

Art Unit: 2872

Regarding claims 15 and 17, reference 09306366A discloses an anti-reflecting layer (13) is disposed in front of a plasma display (1) as shown in figure 1.

5. Claims 3-14 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 09306366A in view of Gotoh et al as applied to claim 1 above, and further in view of Official Notice.

Regarding claim 3, the combined teachings of Japanese Patent 09306366A and Gotoh et al, suggest an infrared absorption filter as described above, but fail to teach the filter having a transparent substrate for supporting the infrared absorbing layer. Official Notice is taken that transparent substrates are well known in the art for supporting infrared absorbing layers for the purposes of increasing the versatility of the filters as well as to enable the filters to easily be incorporated into various infrared absorbing applications and to increase the durability by providing the filters with additional support. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the infrared absorbing layer onto a transparent substrate for the purposes of increasing the versatility of the filters as well as to enable the filters to easily be incorporated into various infrared absorbing applications and to increase the durability by providing the filters with additional support.

Regarding claims 4-8, The combined teachings of Japanese Patent 09306366A and Gotoh et al, suggest an infrared absorption filter as described above, but fail to teach specific concentrations of pigments in the absorbing layer as well as specific optical and physical characteristics of the substrate.

Art Unit: 2872

The examiner takes Official Notice that pigments/dyes disposed within absorbing layers at a concentration of 5% or less of the weight of the resin/binder and transparent substrates having the claimed physical and optical characteristics are well known in the art to be used in filters. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the concentration of the pigments in the absorbing layer of reference 09306366A to be either 5% or to the optimum value for the purpose optimizing the efficiency of the absorption filter. Additionally, it also would have been obvious to one having ordinary skill in the art at the time the invention was made to use a transparent substrate with the claimed optical and physical characteristics since such characteristics are well known in the art for improving the durability and attenuation of optical filters and determining such characteristics or conditions of the substrate since it has been held that discovering an optimum value of a result effective variable only involves routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 9-14 and 16, the combined teachings of Japanese Patent 09306366A and Gotoh et al, suggest an infrared absorption filter as described above, but fail to teach an infrared absorption filter having a transparent electrically conductive film. Official Notice is taken that infrared absorbing filters having transparent electrically conductive of metal mesh with particular aperture ratios and electrically conductive films of alternating metal oxide and gold films and hard coating and anti-glare layers are well known in the art for improving the optical efficiency of the filter by adding further light attenuation, improving the durability as well as reducing light from reflecting off the filter.

Art Unit: 2872

Considering the above teachings asserted by the examiner, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a transparent electrically conductive layer of either metal mesh of any desired numerical aperture or alternating layers, a hard coat layer or a anti-glare layer for the purposes of improving the optical efficiency of the filter by adding further light attenuation, improving the durability as well as reducing glare in the plasma display.

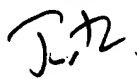
### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

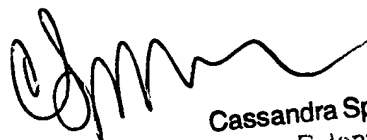
Japanese Patent 8-106059, discloses in figures 2 and 5, an infrared absorption filter comprising wherein the filter has a light transmission of less than 10% in the wavelength range of 800-1100 nm, a difference of less than 10% between the maximum and minimum values of light transmission within the visible wavelength range of 450-650 nm, and a light transmittance of at least 80% at a wavelength of 550 nm.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared Treas whose telephone number is (703) 308-3171. The fax number for the organization where this application or proceeding is assigned is (703) 308-2864. Any inquiry of a general nature or relating to the status of the application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jared Treas



06/21/01



Cassandra Spyrou  
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